

**SCDHEC OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT
PERMIT APPLICATION PUBLIC NOTICE**

April 25, 2008

Permit Number: OCRM-08-093-R
Permit ID: 62619

The SCDHEC Office of Ocean and Coastal Resource Management has received an application for a permit for the alteration of a critical area. This application was submitted pursuant to the Coastal Zone Management Act (Act 123) of the 1977 South Carolina General Assembly. The application, in brief, is described as follows:

APPLICANT: The City of Charleston
 C/O Cummings & McGrady Inc
 251 1/2 King St
 Charleston, SC 29401

LOCATION: On and adjacent to Charleston Harbor at The Battery located along Murray Blvd, Charleston, Charleston County, South Carolina. TMS#: n/a.

WORK: The work as proposed consists of making repairs to the Battery wall. Specifically, the applicant will remove and replace approximately 117 linear feet of existing concrete seawall. The specifics of each section are outlined in the attached write-up and shown on the drawings. The work as described is for seawall repairs to an existing structure. Please note that the proposed activity is being processed by the Army Corps of Engineers as a Nationwide #3 and #33.

This public notice is being distributed to all known interested persons and agencies to assist in developing facts on which a decision by OCRM can be based. Comments concerning the proposed work should be submitted in writing, setting forth sufficient detail to furnish a clear understanding of the reasons for support or opposition.

The decision to issue or deny a permit will be based on the individual merits of the application, the policies specified in the South Carolina Coastal Zone Management Act, and the considerations outlined in the State of South Carolina Coastal Zone Management Program. Interested parties who wish to be notified of final permit action must notify OCRM in writing of this request.

To assure review by OCRM, comments regarding this application must be received by OCRM on or before May 25, 2008. For further information please contact the project manager for this activity, Tess Rodgers at 843-953-0233.

PLEASE REPLY TO:

SCDHEC OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT
1362 McMillan Avenue, Suite 400
Charleston, South Carolina 29405

Please refer to P/N# OCRM-08-093-R



Tess Rodgers, Wetland Section Coordinator

BLOCK 11

The overall project involves the removal and replacement of approximately 117 linear feet of existing concrete seawall. The outward visual appearance of the proposed reconstructed seawall is to closely match the existing seawall's appearance. The new structure will imitate the plan view, the profiles, the elevations, and the material appearance of the existing seawall.

Therefore, we request permission for the following activities:

1. To construct a temporary cofferdam system within the designated limits as indicated on the Application Sheet Drawing Number 3 of 11. The cofferdam system will be designed/built by the (yet-to-be-determined) Contractor. The cofferdam system is to allow the demolition/construction of the seawall to proceed regardless of the tidal state. It is anticipated that a portion of the cofferdam construction will require the excavation of a pathway through the existing blanket of stone rip rap located seaward of the seawall. The depth of the existing blanket of stone rip rap is unknown. However if the rip rap is assumed to be 2 feet deep, then approximately **24 cubic yards** of rip rap will need to be removed. It is anticipated that the stone rip rap will be excavated using a clam shell device. It is requested that the material necessary to be removed from the pathway be permitted to be temporarily relocated just seaward of the cofferdam, but still within the blanket zone of rip rap.
2. To excavate a portion of the existing blanket of stone rip rap within the interior of the newly constructed cofferdam system. If the rip rap is assumed to be 2 feet deep, then approximately **112 cubic yards** of rip rap will need to be removed. It is anticipated that the stone rip rap will be excavated using a clam shell device. The material will be removed from the project site and disposed of off site.
3. To demolish and remove from the site the approximately 117 linear feet of the deteriorated, existing concrete seawall, the earth fill interior to the seawall structure, and the remains of the existing supporting timber platform. The existing timber support piles are to remain in place. However the approximately top 3 feet of each pile will be cut off. All material will be removed from the project site and disposed of off site.
4. To excavate the earth subgrade (typically very soft gray organic clay with sand) from the area adjacent to the seaward side of the existing seawall. The excavation will extend vertically downward to an elevation of (-) 6.5 NGVD29. The excavation will extend horizontally approximately four (4) feet seaward of the seaward face of the existing seawall and then slope upwards at slope of approximately 1 (horizontal)-to-1 (vertical). The approximate

volume of material to be removed (that is seaward of the seaward face of the existing seawall) is **159 cubic yards**. It is anticipated that the earth subgrade will be excavated using a clam shell device. The excavated material will be removed from the project site and disposed of off site.

5. To back fill most of the resultant excavation with crushed stone. The constructed mat of crushed stone will be approximately 3 feet in depth. The top of the mat of crushed stone will be at elevation (-) 3.5 NGVD29. Approximately **117 cubic yards** of crushed stone will need to be installed. It is anticipated that the crushed stone will be installed using a clam shell device.
6. To construct a new seawall structure. Approximately **42 cubic yards** of cast-in-place concrete will be placed **seaward of the seaward face of the existing seawall (but mostly below finished grade)** as part of the new seawall's foundation system. If necessary and as part of the contingency pile placement plan, twelve (12) new prestressed concrete batter piles may have to be driven in a seaward direction as part of the new seawall's foundation system. The batter piles will be driven on a batter of 4 (horizontal)-to-12 (vertical).
7. After the new concrete seawall has been completed, to replace the stone rip rap within the interior of the cofferdam system. The grades of the installed rip rap around the seaward perimeter of the new seawall will approximate the grades of the encircling existing rip rap. Approximately **112 cubic yards** of stone rip rap will need to be installed. It is anticipated that the stone rip rap will be installed using a clam shell device.
8. To remove the temporary cofferdam system and relocate back the approximately **24 cubic yards** of stone rip rap originally excavated from the cofferdam's pathway. It is anticipated that the stone rip rap will be relocated using a clam shell device.

BLOCK 12

The primary purpose of the project is to remove and replace the approximately 117 linear feet of existing concrete seawall that is severely deteriorated. The seawall's ability to resist substantial vertical loads and environmental loads such as hurricane force winds and the accompanying wind driven waves is seriously compromised. In its present deteriorated condition, it seems doubtful that this portion of the seawall could successfully withstand the direct onslaught of a major hurricane without substantial damage. The basic purposes of the requested permitted activities are as follows:

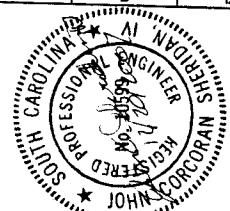
1. (Basic Purpose of Requested Permitted Activity 11.1) It is anticipated that a portion of the

cofferdam construction will require the excavation of a pathway through the existing blanket of stone rip rap located seaward of the seawall. If the rip rap is assumed to be 2 feet deep, it is anticipated that approximately **24 cubic yards** of rip rap will need to be removed. It is anticipated the excavation of a pathway is necessary in order to successfully install a cofferdam system.

2. (Basic Purpose of Requested Permitted Activity 11.2) After the cofferdam system is constructed, a portion of the existing blanket of stone rip rap within the interior of the cofferdam system needs to be excavated. If the rip rap is assumed to be 2 feet deep, then approximately **112 cubic yards** of rip rap will need to be removed. The existing rip rap needs to be removed to allow for the demolition of the existing seawall and the construction of the new seawall foundation.
3. (Basic Purpose of Requested Permitted Activity 11.3) Approximately 117 linear feet of the existing seawall is severely deteriorated and needs to be replaced.
4. (Basic Purpose of Requested Permitted Activity 11.4) Approximately **159 cubic yards of earth subgrade (located seaward of the seaward face of the existing seawall)** needs to be removed. The existing material needs to be removed to allow for the construction of the new seawall foundation.
5. (Basic Purpose of Requested Permitted Activity 11.5) Approximately **117 cubic yards of crushed stone will need to be installed seaward of the seaward face of the existing seawall**. The crushed stone will create a mat. The intent of the mat is to provide a stable subgrade on which to construct the concrete foundation and to increase the lateral strength of the subgrade around the top portions of the new support piles.
6. (Basic Purpose of Requested Permitted Activity 11.6) Approximately **42 cubic yards** of concrete will need to placed **seaward of the seaward face of the existing seawall (but mostly below finished grade)** as part of the new seawall's foundation system. If necessary and as part of the contingency pile placement plan, twelve (12) new prestressed concrete batter piles may have to be driven in a seaward direction as part of the new seawall's foundation system. The structural design of the new seawall will correct the fundamental weaknesses within the existing seawall.
7. (Basic Purpose of Requested Permitted Activity 11.7) Approximately **112 cubic yards** of stone rip rap will need to be installed to replace the rip rap that had been previously removed from within the interior of the cofferdam.

8. (Basic Purpose of Requested Permitted Activity 11.8) Approximately **24 cubic yards** of stone rip rap will need to be relocated back to cover the pathway originally excavated for the cofferdam's construction. The stone rip rap will be relocated after the temporary cofferdam has been removed.

City of Charleston, Battery Seawall
Repairs OCRM-08-093-R
Drawings are NTS
Reduced for public notice

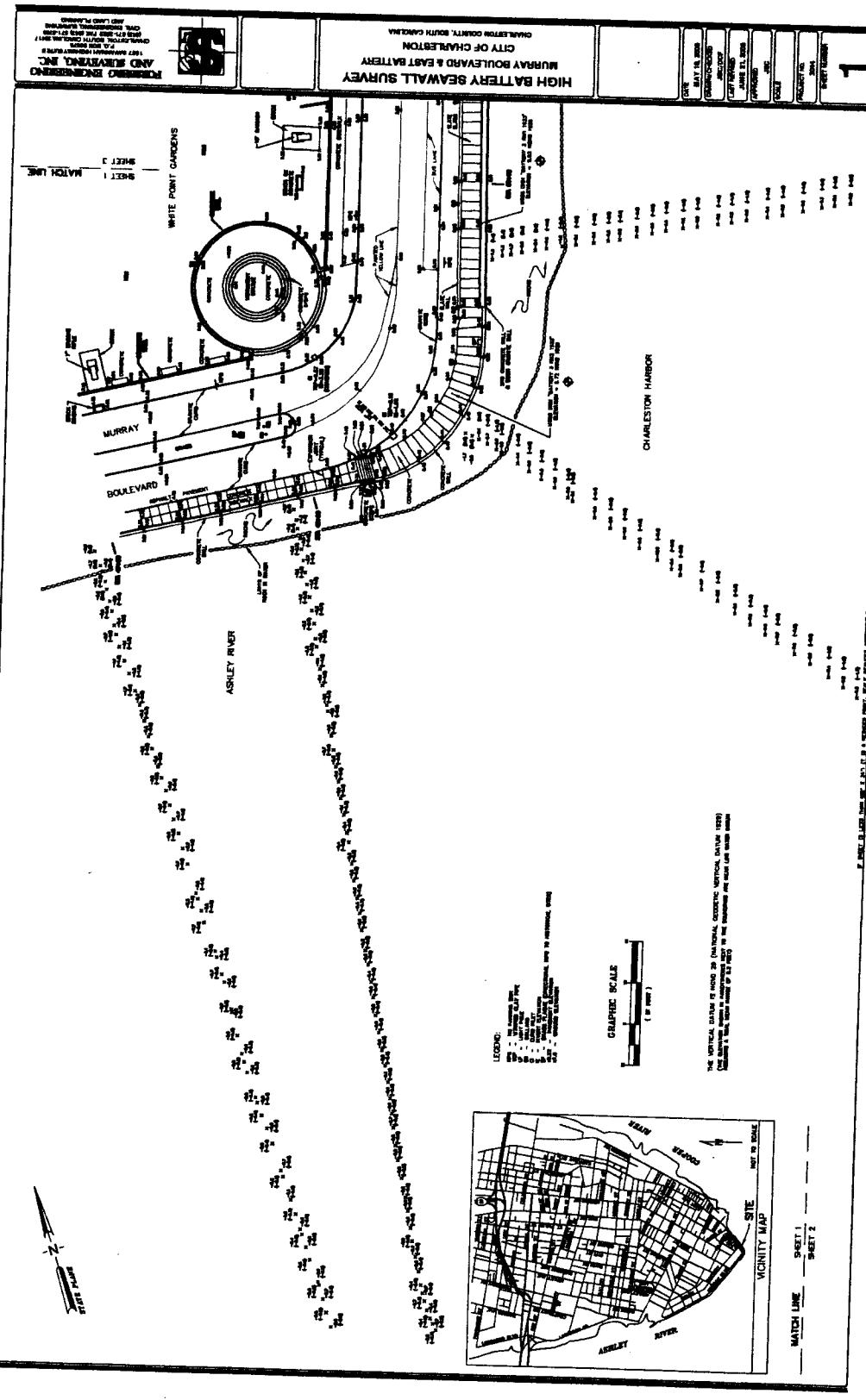


CUMMINGS &
McCRADY, INC.

PROJECT SITE
TOPOGRAPHIC AND HYDROGRAPHIC SURVEY

SEAWALL REPAIRS
For the City of Charleston, South Carolina

NOTE: DRAWING IS FOR PERMITTING PURPOSES ONLY, NOT FOR CONSTRUCTION



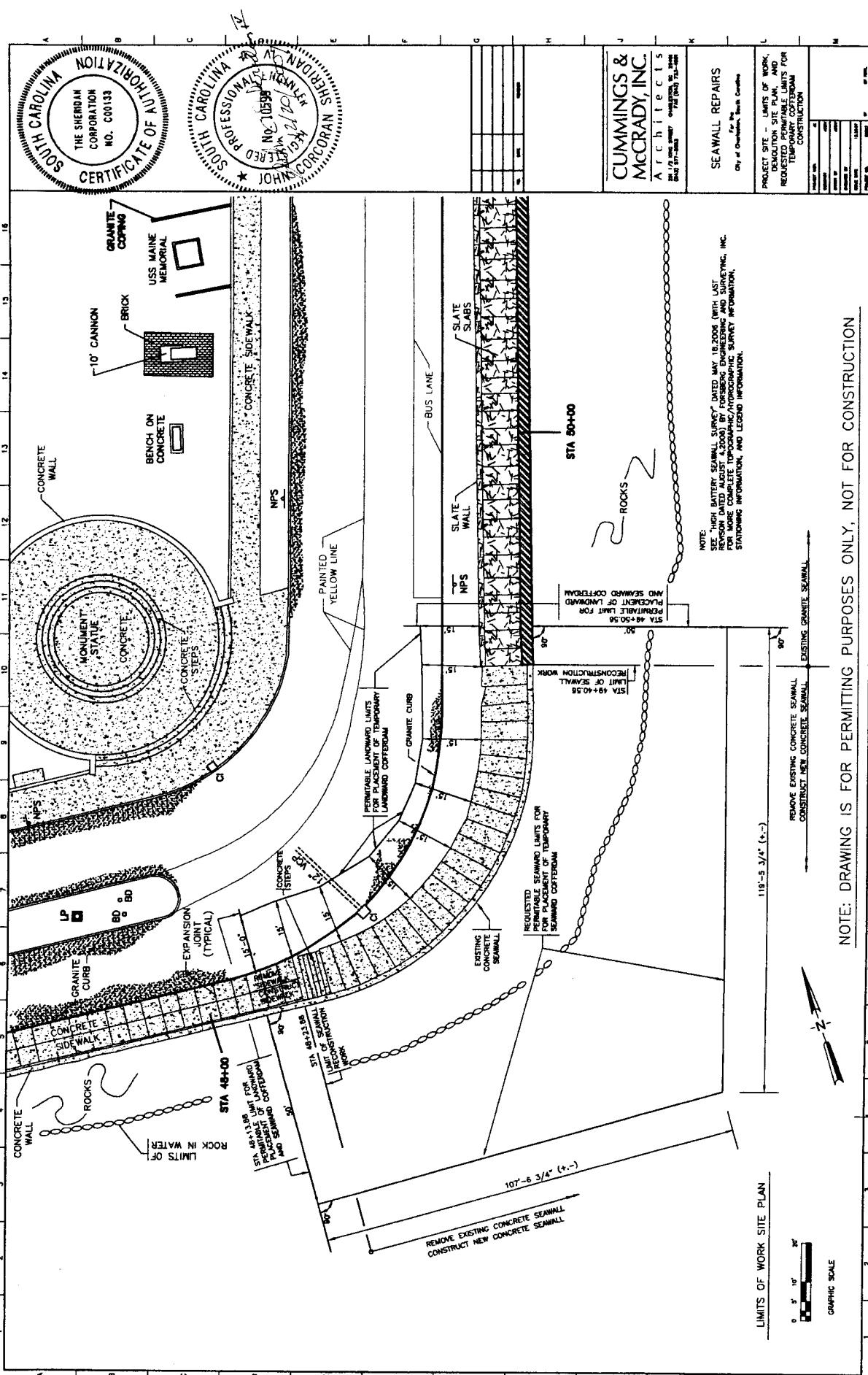
NOTES:

1. THE NORTHERN EDGE OF THE ASHLEY RIVER CHANNEL IS APPROXIMATELY 1,500 FEET FROM THE PROJECT SITE.
2. THE WESTERN EDGE OF THE COOPER RIVER CHANNEL IS APPROXIMATELY 3,000 FEET FROM THE PROJECT SITE.

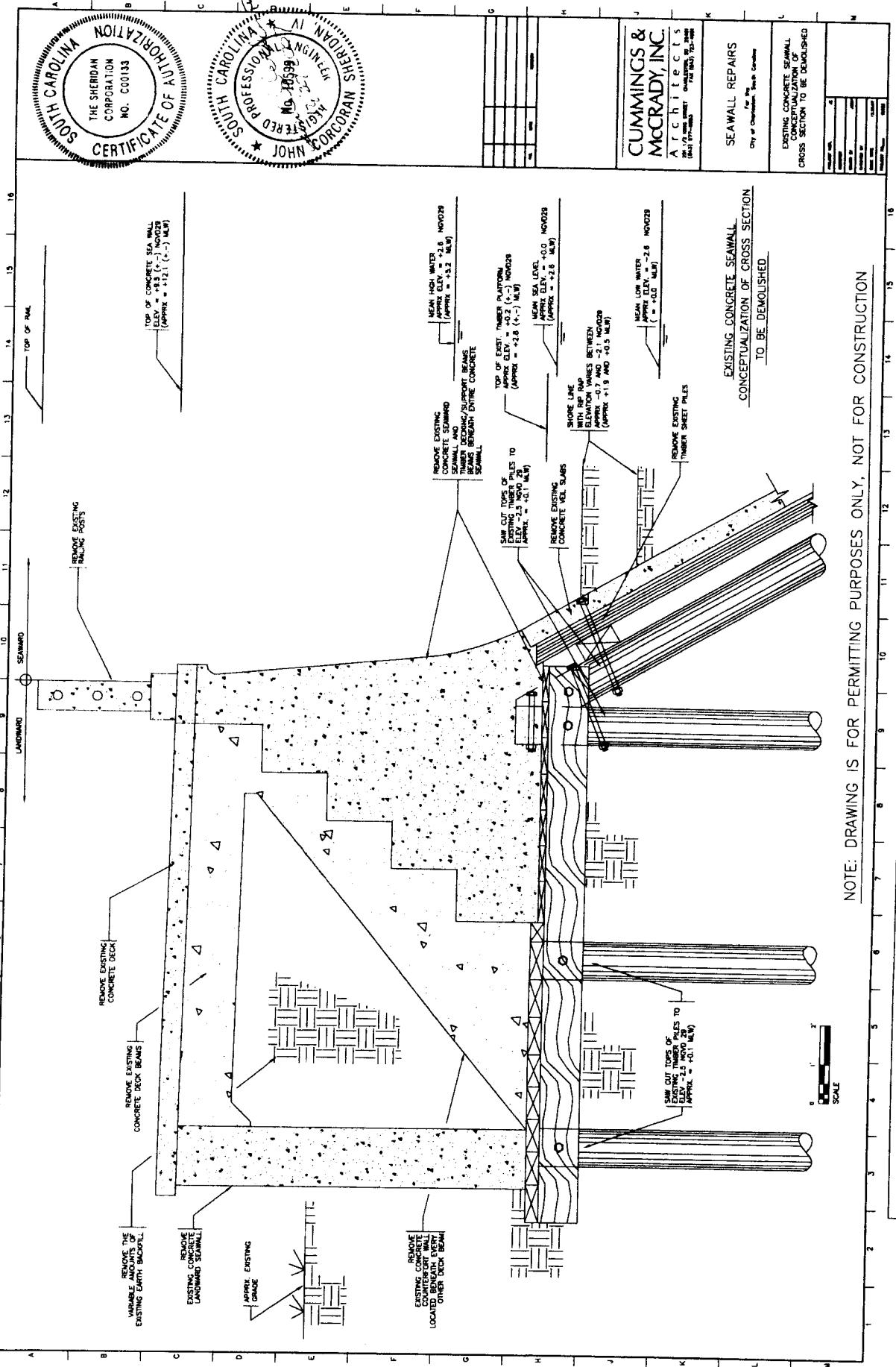
PROJECT TITLE: SEAWALL REPAIRS
PROJECT LOCATION: PENINSULAR CHARLESTON, S.C.
APPLICANT: THE CITY OF CHARLESTON, S.C.

DATE OF DRAWING: DECEMBER 20, 2007
DATE OF REVISION: NO REVISION
APPLICATION SHEET DRAWING NUMBER: 2 OF 11

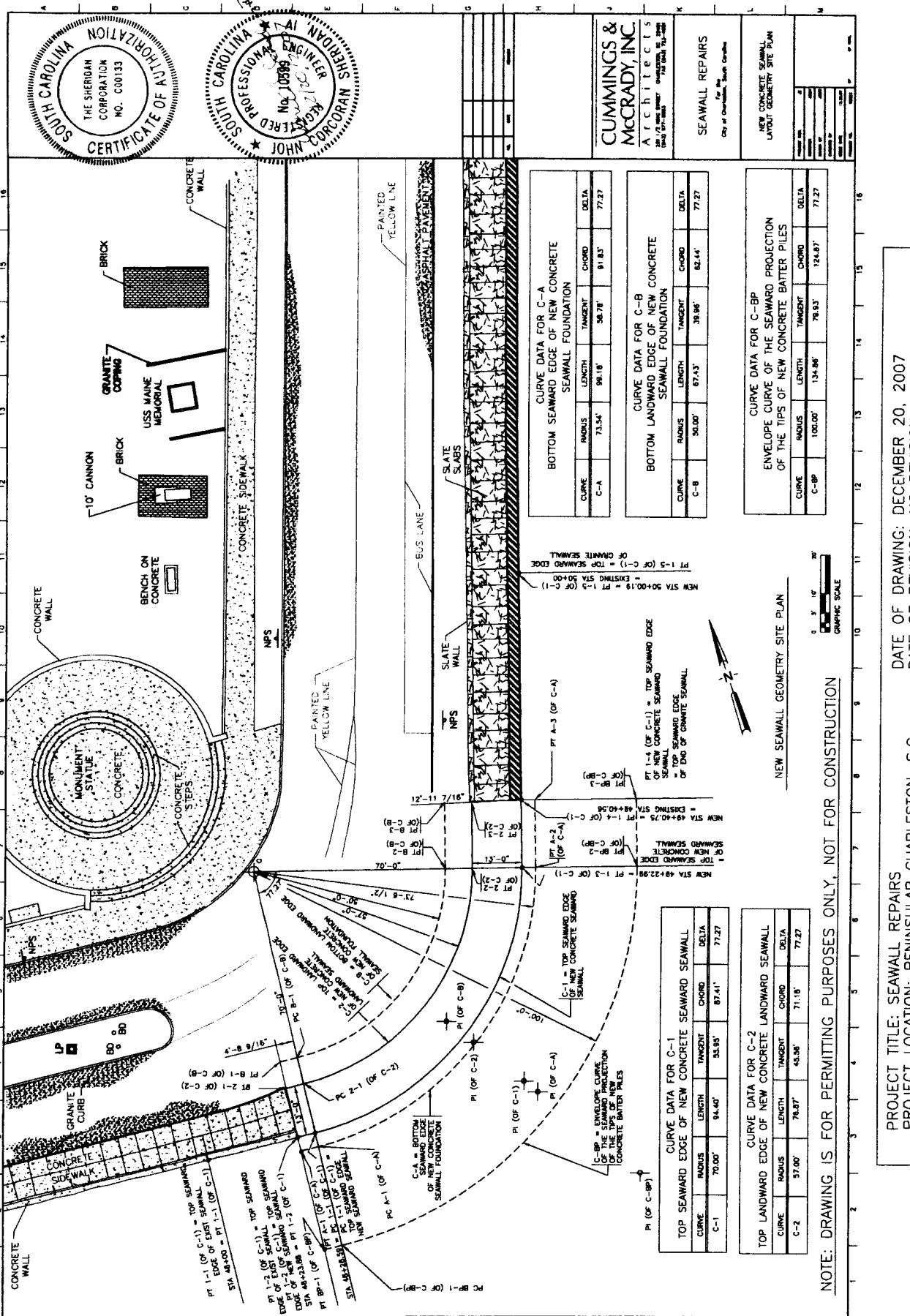
City of Charleston, Battery Seawall
Repairs OCRM-08-093-R
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City of Charleston, Battery Seawall
Repairs OCRM-08-093-R
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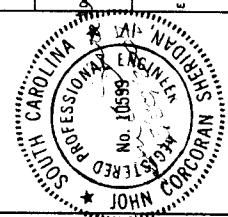
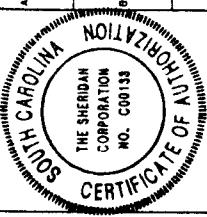
City of Charleston, Battery Seawall
Repairs OCRM-08-093-R
Drawings are NTS
Reduced for public notice



PROJECT TITLE: SEAWALL REPAIRS
PROJECT LOCATION: PENINSULAR CHARLESTON, S.C.
APPLICANT: THE CITY OF CHARLESTON, S.C.

DATE OF DRAWING: DECEMBER 20, 2007
DATE OF REVISION: NO REVISION
APPLICATION SHEET DRAWING NUMBER: 5

City of Charleston, Battery Seawall
Repairs OCRM-08-093-R
Drawings are NTS
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TOP SEAWARD EDGE CURVE ALIGNMENT SCHEDULE

**NEW CONCRETE LANDWARD SEAWALL
LANDWARD EDGE CURVE ALIGNMENT SCHEDULE
CURVE C-2**

POINT DESCRIPTION	STATION	NORTHEING	EASTING
PT 1-1 = TOP SEAMWARD EDGE OF EXISTING CONCRETE SEAWALL	EXISTING 48+00	N 343315.73	E 2329163.38
PT 1-2 = TOP SEAMWARD EDGE OF EXISTING CONCRETE SEAWALL	EXISTING 48+23.86 = NEW 48+23.86	N 342213.74	E 2329187.16
PT 1-3 = TOP SEAMWARD EDGE OF NEW CONCRETE SEAWALL	NEW 48+26.98	N 342213.55	E 2329191.88
PT 1-4 = TOP SEAMWARD EDGE OF NEW CONCRETE SEAWALL	NEW 48+21.98	N 342262.05	E 2329208.64
PT 1-5 = TOP SEAMWARD EDGE OF NEW CONCRETE SEAWALL	NEW 49+40.75 = EXISTING 49+40.36	N 342279.00	E 2329268.79
O = ORIGIN OF CURVE	NOT APPLICABLE	N 342285.89	E 2329187.10

POINT ON CURVE C-2
ON NEW CONCRETE LANDWARD SEAWALL
TOP INDICATED

LOCATION OF CURVES ON
NEW CONCRETE SURFACE

NOTE: Drawing is for FURNITURE PURPOSES ONLY, NOT FOR CONSTRUCTION

PROJECT TITLE: SEAWALL REPAIRS
PROJECT LOCATION: BENINSON AD S

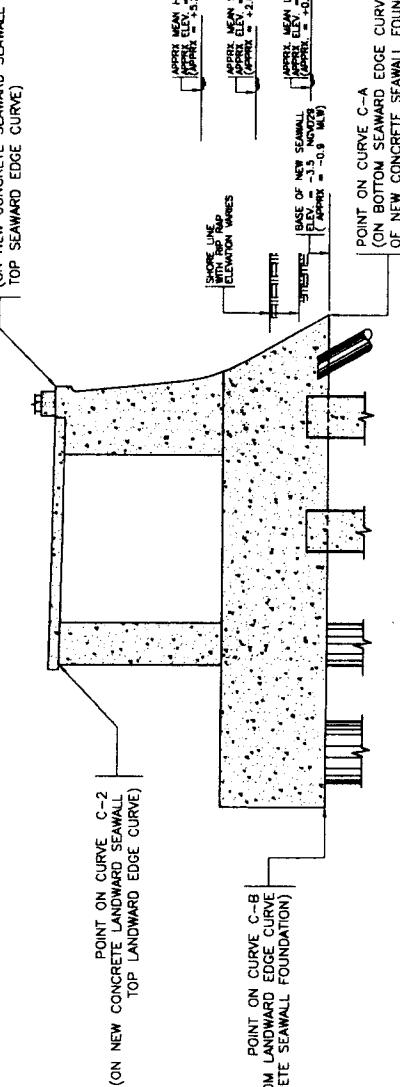
DATE OF DRAWING

DATE OF REVISION: NO REVISION
APPLICATION SHEET DRAWING NUMBER: 6 OF 6

City of Charleston, Battery Seawall
Repairs OCRM-08-093-R
Drawings are NTS
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NEW CONCRETE SEAWALL FOUNDATION BOTTOM SEAWARD EDGE CURVE ALIGNMENT SCHEDULE CURVE C-A			
POINT DESCRIPTION	LOCATION FROM STATION	NORTHING	EASTING
PT A-1 = BOTTOM SEAWARD EDGE OF NEW CONCRETE SEAWALL FOUNDATION	3'-6 1/2" PERPENDICULAR TO AND SEAWARD FROM EXISTING 48+40.36 WHICH IS NEW 48+40.36	N 34210.21	E 2329186.88
PT A-1 = BOTTOM SEAWARD EDGE OF NEW CONCRETE SEAWALL FOUNDATION	3'-6 1/2" PERPENDICULAR TO AND SEAWARD FROM NEW 48+40.36	N 342209.82	E 2329191.59
PT (ON C-A) = POINT OF INTER-SECTION (TANGENTS) OF BOTTOM SEAWARD EDGE OF NEW CONCRETE SEAWALL FOUNDATION	NOT APPLICABLE	N 342204.93	E 2329225.18
PT A-2 = BOTTOM SEAWARD EDGE OF NEW CONCRETE SEAWALL FOUNDATION	3'-6 1/2" PERPENDICULAR TO AND SEAWARD FROM NEW 48+22.98	N 342280.98	E 2329267.84
PT A-3 = BOTTOM SEAWARD EDGE OF NEW CONCRETE SEAWALL FOUNDATION AND ABOVE THE SURFACE THE SIDE OF THE EXISTING GRANITE SEAWALL	3'-6 1/2" PERPENDICULAR TO AND SEAWARD FROM NEW 48+40.75 WHICH IS EXISTING 48+40.56	N 342277.93	E 2329273.18
O = ORIGIN OF CURVE	NOT APPLICABLE	N 342233.10	E 2329197.70

NEW CONCRETE SEAWALL FOUNDATION BOTTOM LANDWARD EDGE CURVE ALIGNMENT SCHEDULE CURVE C-B			
POINT DESCRIPTION	LOCATION FROM STATION	NORTHING	EASTING
PT B-1 = BOTTOM LANDWARD EDGE OF NEW CONCRETE SEAWALL FOUNDATION (BELLOW GROUND LEVEL)	10'-0" PERPENDICULAR TO AND LANDWARD FROM EXISTING 48+23.88 WHICH IS NEW 48+23.88	N 342233.67	E 2329186.88
PT B-1 = BOTTOM LANDWARD EDGE OF NEW CONCRETE SEAWALL FOUNDATION	20'-0" PERPENDICULAR TO AND LANDWARD FROM NEW 48+28.59	N 342233.28	E 2329193.54
PT (ON C-B) = POINT OF INTER-SECTION (TANGENTS) OF BOTTOM LANDWARD EDGE OF NEW CONCRETE SEAWALL FOUNDATION	NOT APPLICABLE	N 342229.95	E 2329213.17
PT B-2 = BOTTOM LANDWARD EDGE OF NEW CONCRETE SEAWALL FOUNDATION	10'-0" PERPENDICULAR AND LANDWARD FROM NEW 48+22.98	N 342248.07	E 2329245.38
PT B-3 = BOTTOM LANDWARD EDGE OF NEW CONCRETE SEAWALL FOUNDATION AND ABOVE THE SURFACE THE SIDE OF THE EXISTING GRANITE SEAWALL	20'-0" (±) LANDWARD FROM NEW 48+40.75 WHICH IS EXISTING 48+40.56	N 342284.64	E 2329256.61
O = ORIGIN OF CURVE	NOT APPLICABLE	N 342283.10	E 2329197.70



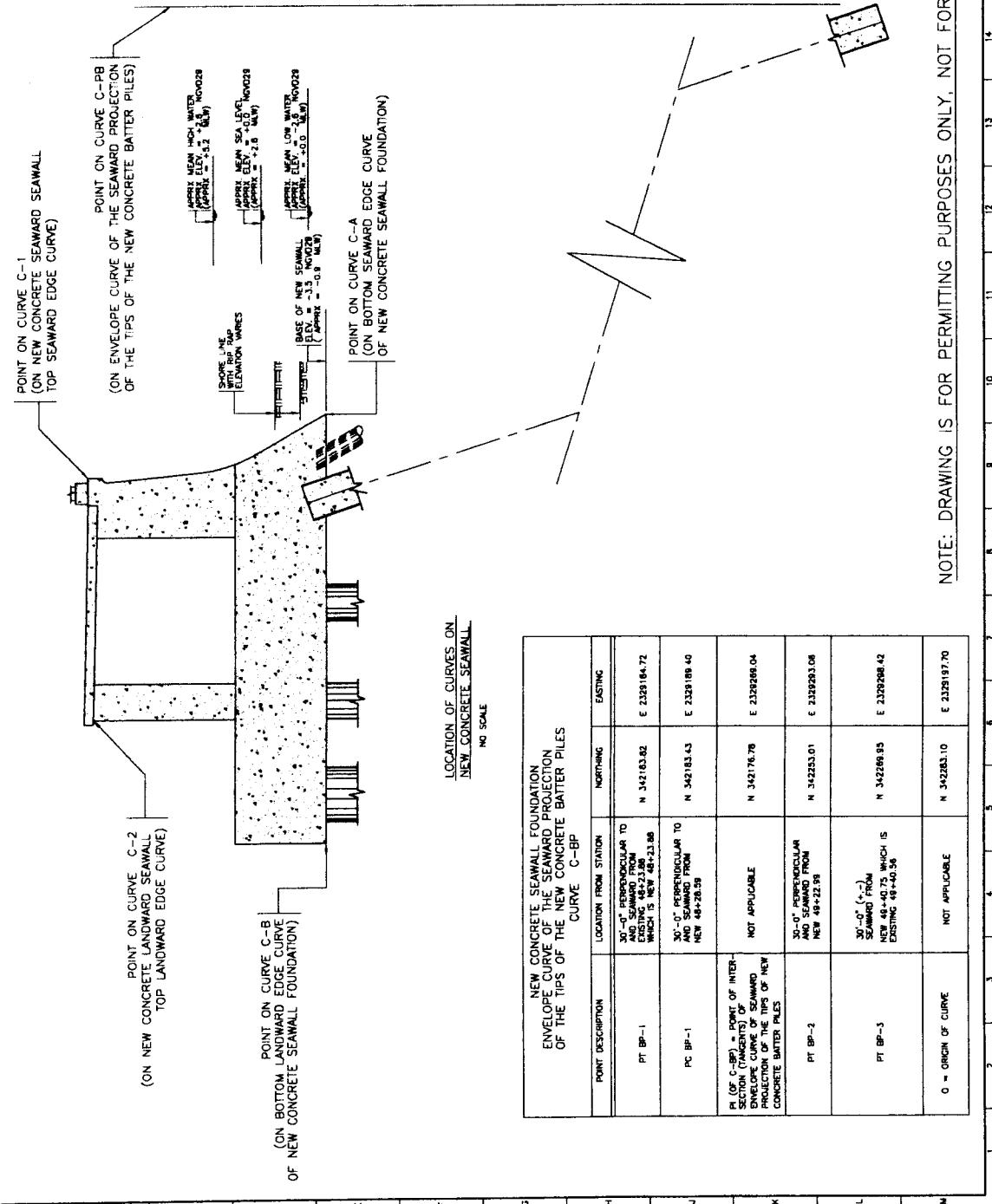
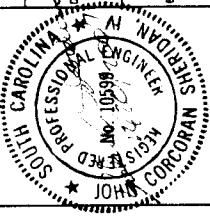
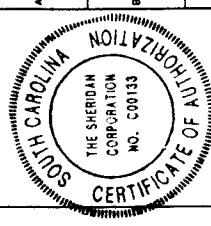
LOCATION OF CURVES ON
NEW CONCRETE SEAWALL
NO SCALE

NOTE: DRAWING IS FOR PERMITTING PURPOSES ONLY, NOT FOR CONSTRUCTION

PROJECT TITLE: SEAWALL REPAIRS
PROJECT LOCATION: PENINSULAR CHARLESTON, S.C.
APPLICANT: THE CITY OF CHARLESTON, S.C.

DATE OF DRAWING: DECEMBER 20, 2007
DATE OF REVISION: NO REVISION
APPLICATION SHEET DRAWING NUMBER: 7 OF 11

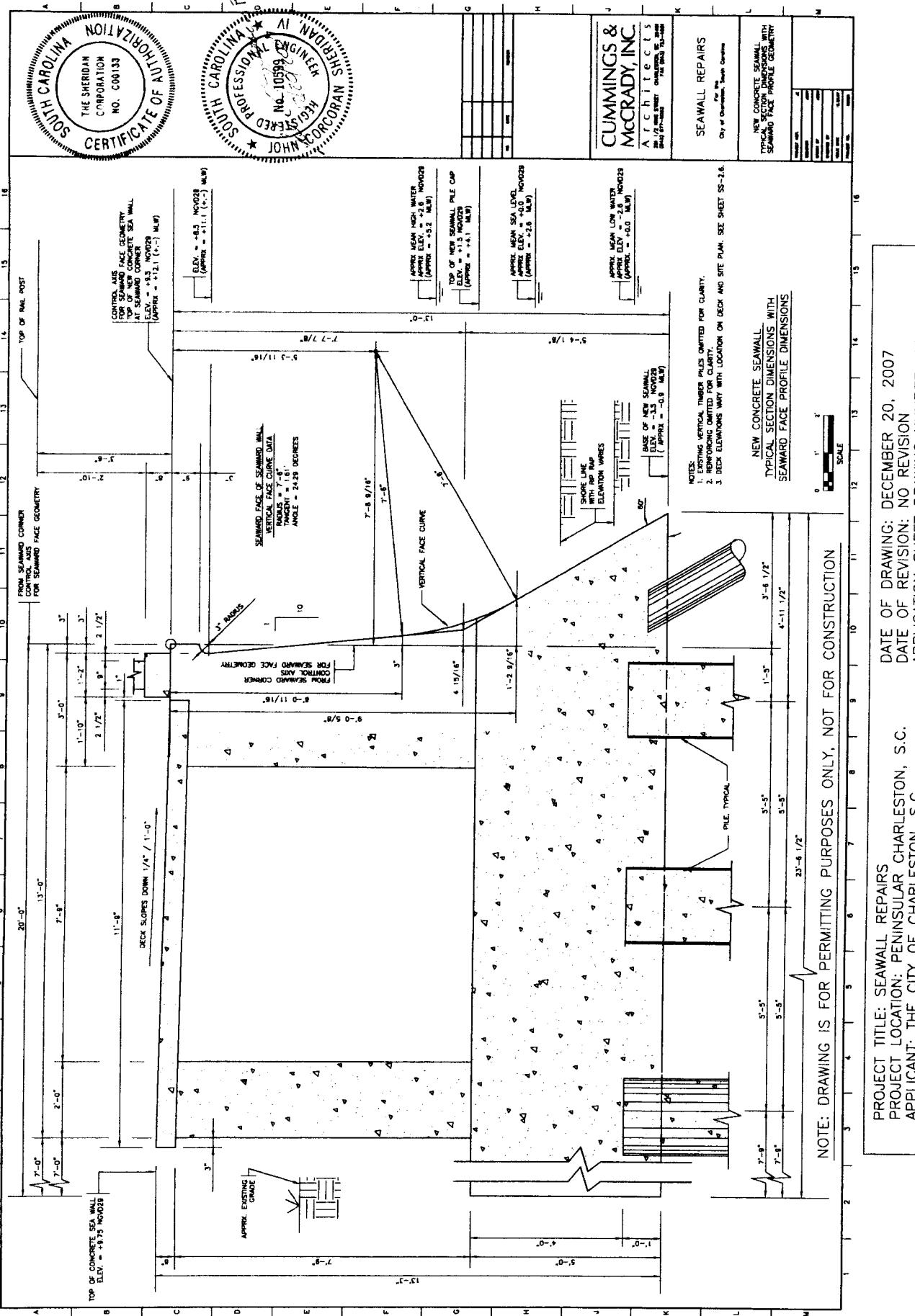
City of Charleston, Battery Seawall
Repairs OCRM-08-093-R
Drawings are NTS
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PROJECT TITLE: SEAWALL REPAIRS
PROJECT LOCATION: PENINSULAR CAY
APPLICANT: THE CITY OF CHARLESTON

DATE OF DRAWING: DECEMBER 20, 2007
DATE OF REVISION: NO REVISION
APPLICATION SHEET DRAWING NUMBER: 8

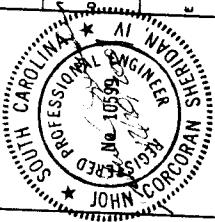
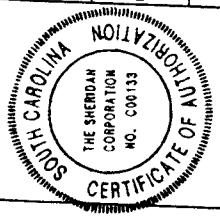
City of Charleston, Battery Seawall
Repairs OCRM-08-093-R
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PROJECT TITLE: SEAWALL REPAIRS
PROJECT LOCATION: PENINSULAR CHARLESTON, S.C.
APPLICANT: THE CITY OF CHARLESTON, S.C.

DATE OF DRAWING: DECEMBER 20, 2007
DATE OF REVISION: NO REVISION
APPLICATION SHEET DRAWING NUMBER: 10 OF 11

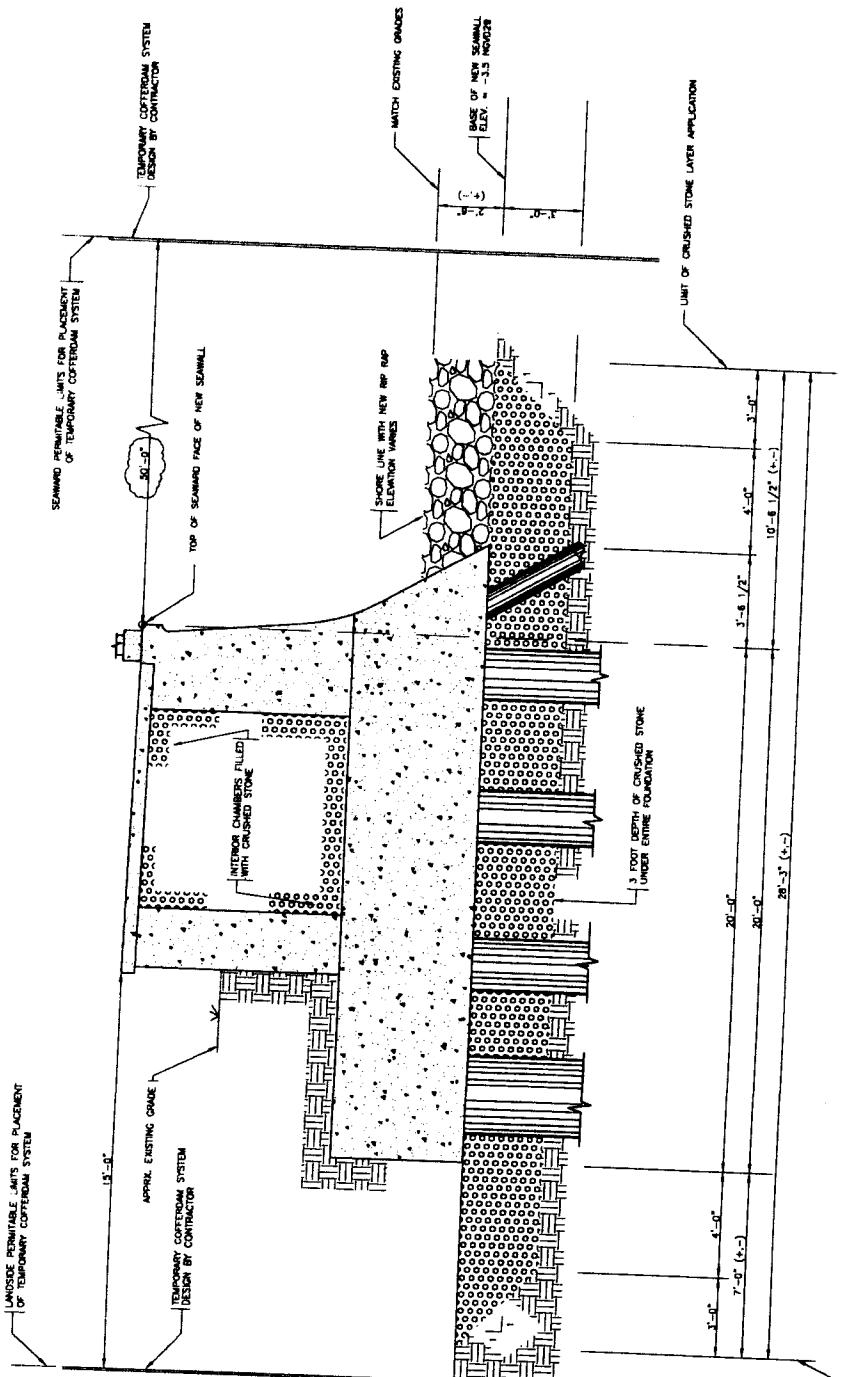
City of Charleston, Battery Seawall
Repairs OCRM-08-093-R
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**CUMMINGS &
MCCRADY, INC.**

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**NEW CONCRETE SEAWALL
TYPICAL SECTION SHOWING
SUBGRADE LAYER**

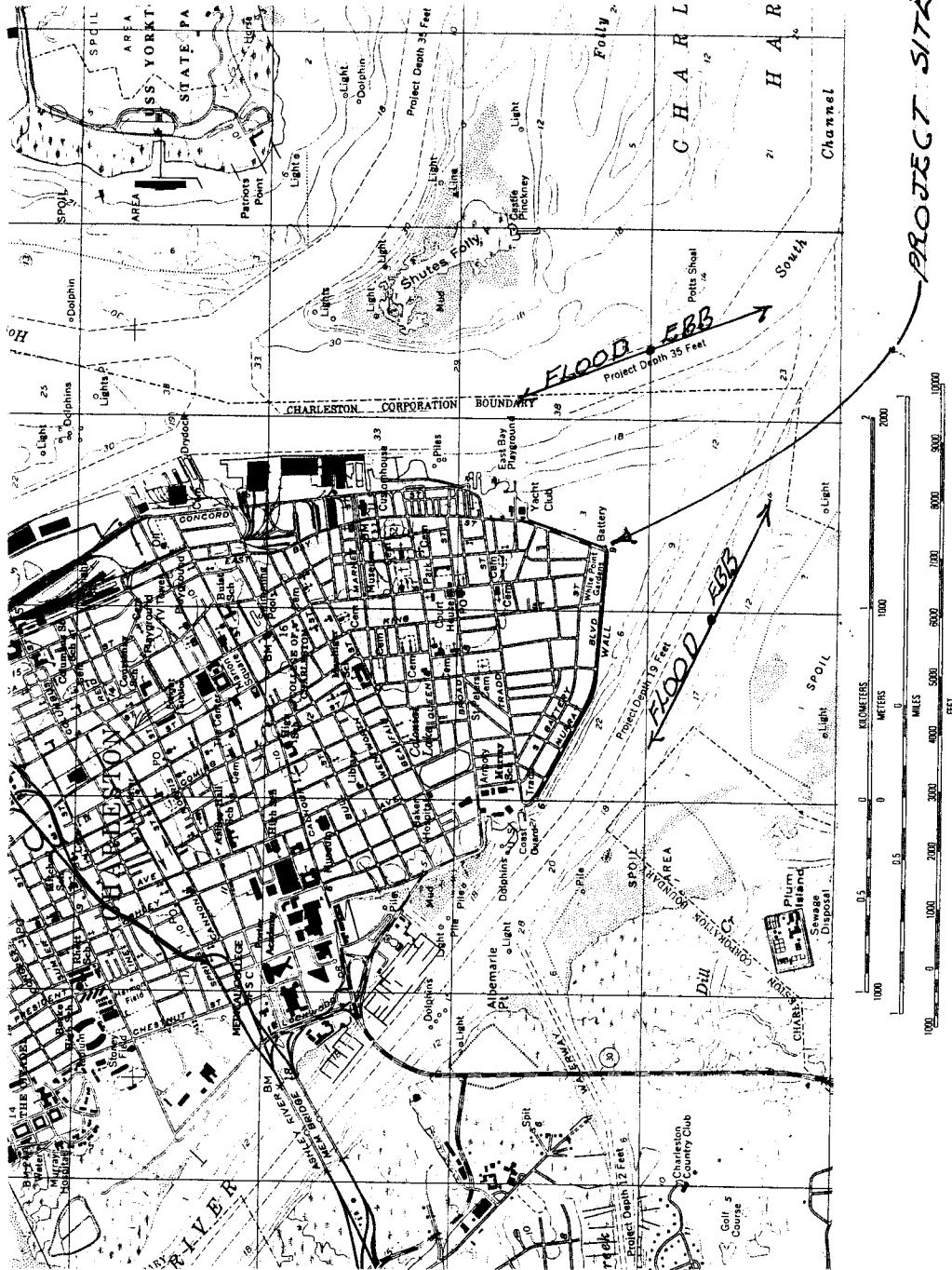
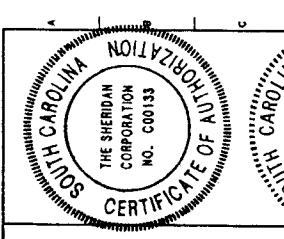


NOTE: DRAWING IS FOR PERMITTING PURPOSES ONLY. NOT FOR CONSTRUCTION

PROJECT NAME: CLAWAL REPAIRS
PROJECT LOCATION: PENINSULAR CHARLESTON, S.C.
APPLICANT: THE CITY OF CHARLESTON, S.C.

DATE OF DRAWING: DECEMBER 20, 2007
DATE OF REVISION: APRIL 22, 2008
APPLICATION SHEET DRAWING NO. 1

City of Charleston, Battery Seawall
Repairs OCRM-08-093-R
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PROJECT TITLE: SEAWALL REPAIRS

PROJECT LOCATION: PENINSULAR CHARLESTON, S.C.

APPLICANT: THE CITY OF CHARLESTON, S.C.

LATITUDE OF PROJECT SITE: 32° 46' (MIN)

LONGITUDE OF PROJECT SITE: 79° 56' (MIN)

QUADRANGLE SHEET FOR PROJECT: CHARLESTON, S.C.

DATE OF DRAWING: DECEMBER 20, 2007

DATE OF REVISION: NO REVISION

APPLICATION SHEET DRAWING NUMBER: 1 OF 1

LONGITUDE OF PROJECT SITE: 79° 56' (MIN)

PROJECT SITE LOCATION MAP

City of Charleston, Battery Seawall
Repairs OCRM-08-093-R
Drawings are NTS
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